0068294

Analytical Data Package Prepared For

Fluor Hanford Inc.

W04589A

Radiochemical Analysis By

STL Richland

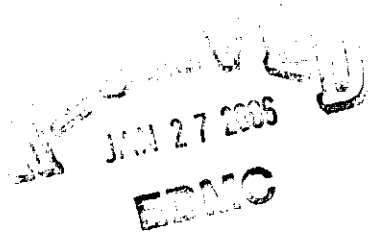
2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: STLRL

Data Package Contains _____ Pages

Report No.: 29853

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W04589A	F05-009	(G6CXX)B1CFC6R	J5H190158-1	HHVJ51AA	9HHVJ510	5231258



Certificate of Analysis

Fluor Hanford
P.O. Box 1000, T6-03
Richland, WA 99352

September 8, 2005

Attention: John Trechter

SAF Number	:	F05-009
Date SDG Closed	:	August 19, 2005
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	W04589A
Data Deliverable	:	7-Day / 15-Day Summary

CASE NARRATIVE

I. Introduction

On August 19, STL Richland received a request for a reanalysis of radiochemical analysis. Upon receipt, the sample was assigned to lot J5H190158 was assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

FH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1CFC6	HHVJ5	WATER	3/16/05

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Liquid Scintillation Counting
Technetium-99 by method RICH-RC-5078

IV. Quality Control

The analytical results for each analysis performed under SDG W04589A includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Liquid Scintillation Counting
Technetium-99 by method RICH-RC-5078
The LCS, batch blank, sample and sample duplicate (B1CFC6) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Hans Carman
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon aetivity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and baekground. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, ***u_c the combined uncertainty.*** The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to thc reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS softwarc to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt(TPUs^2 + TPUd^2)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 08-Sep-05

STL Richland STLRL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 29853 **SDG No:** W04589A

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
5231258	**TC99_ETVDSK_LSC**								
	(G6CXX)B1CFC6R								
	HHVJ51AA	TC-99	2.35E+00 +- 1.66E-01		pCi/g	100%	7.83E-02	1.50E+01	
	(G6CXX)B1CFC6R DUP								
	HHVJ51AD	TC-99	2.36E+00 +- 1.78E-01		pCi/g	100%	9.51E-02	1.50E+01	0.6

No. of Results: 2

QC Results Summary

Date: 08-Sep-05

STL Richland STLRL

Ordered by Method, Batch No, QC Type,.

Report No. : 29853

SDG No.: W04589A

Batch / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
TC99_ETVDSK_LSC								
5231258 BLANK QC								
HHVMH1AA	TC-99	1.29E-01 +- 5.80E-02		pCi/g	100%			8.00E-02
5231258 LCS								
HHVMH1AC	TC-99	3.91E+01 +- 2.01E+00		pCi/g	100%	87%	-0.1	7.41E-02

No. of Results: 2

FORM I

SAMPLE RESULTS

Date: 08-Sep-05

Lab Name: STL Richland **SDG:** W04589A **Collection Date:** 3/14/2005 10:45:00 AM

Lot-Sample No.: J5H190158-1 **Report No. :** 29853 **Received Date:** 3/16/2005 12:30:00 PM

Client Sample ID: (G6CXX)B1CFC6R **COC No. :** F05-009-128 **Matrix:** SOIL

W04589A

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5231258	TC99_ETVDSK_LSC		Work Order:	HHVJ51AA		Report DB ID:	9HHVJ510					
TC-99	2.35E+00		6.44E-02	1.66E-01	7.83E-02	pCi/g	100%	*(30.)*	8/22/06 01:50 a		10.1	LSC6
						3.81E-02	1.50E+01	*(28.4)*			G	

No. of Results: 1 **Comments:**

FORM I

SAMPLE RESULTS

Date: 08-Sep-05

Lab Name:	STL Richland	**SDG:**	W04589A	**Collection Date:**	3/14/2005 10:45:00 AM
Lot-Sample No.:	J5H190158-1	**Report No. :**	29853	**Received Date:**	3/16/2005 12:30:00 PM
Client Sample ID:	(G6CXX)B1CFC6R	**COC No. :**	F05-009-128	**Matrix:**	SOIL

W04589A

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

FORM II

Date: 08-Sep-05

DUPLICATE RESULTS

Lab Name: STL Richland **SDG:** W04589A **Collection Date:** 3/14/2005 10:45:00 AM

Lot-Sample No.: J5H190158-1 **Report No. :** 29853 **Received Date:** 3/16/2005 12:30:00 PM

Client Sample ID: (G6CXX)B1CFC6R DUP **COC No. :** F05-009-128 **Matrix:** SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5231258	TC99_ETVDSK_LSC			**Work Order:** HHVJ51AD		**Report DB ID:** HHVJ51DR			**Orig Sa DB ID:** 9HHVJ510			
TC-99	2.36E+00		7.33E-02	1.78E-01	9.51E-02	pCi/g	100%	(24.8)	8/22/05 04:48 a		8.0	LSC6
	2.35E+00		**RPD**	**0.6**		1.50E+01		(26.5)			G	

No. of Results: 1 **Comments:**

FORM II

BLANK RESULTS

Date: 08-Sep-05

Lab Name: STL Richland **SDG:** W04589A

Matrix: SOIL **Report No. :** 29853

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5231258	TC99_ETVDSK_LSC			**Work Order:** HHVMH1AA		**Report DB ID:** HHVMH1AB						
TC-99	1.29E-01		3.49E-02	5.80E-02	8.00E-02	pCi/g	100%	(1.6)	8/22/05 07:47 a		10.0	LSC6
					3.90E-02	2.00E+01		(4.4)			G	

No. of Results: 1 **Comments:**

FORM II

Date: 08-Sep-05

LCS RESULTS

Lab Name: STL Richland **SDG:** W04589A

Matrix: SOIL **Report No. :** 29853

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 5231258	TC99_ETVDSK_LSC			**Work Order:**	HHVMH1AC		**Report DB ID:**	HHVMH1CS					
TC-99	3.91E+01		2.24E-01	2.01E+00	7.41E-02	pCi/g	100%	4.52E+01	5.72E-01	87%	8/22/05 10:45 a	10.0	LSC6
							Rec Limits:	70	130	-0.1		G	

No. of Results: 1 **Comments:**

STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/25/2005 8:11:23 AM

Lot No., Due Date: J5H190158; 08/29/2005

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 5231258; RTC99 Tc-99 by LSC

SDG, Matrix: W04589A; SOIL

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
2.0 Batch Summary			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A ✓
3.0 QC Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No ✓	N/A
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes	No	N/A ✓
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	Yes ✓	No	N/A
5.2 Are all required forms filled out?	Yes ✓	No	N/A
5.3 Was the correct methodology used?	Yes ✓	No	N/A
5.4 Was transcription checked?	Yes ✓	No	N/A
5.5 Were all calculations checked at a minimum frequency?	Yes ✓	No	N/A
5.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

6.0 Comments on any No response:

There was insufficient sample sent for a matrix spike. 10-06438

First Level Review Pam Anderson **Date** 8-25-05

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 523125-8

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: WO ~~[illegible]~~ Huc Matrix Spike See NCM

Second Level Review: [signature] Date: 9-8-05

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-06438**
NCM Initiated By: Pam Anderson
Date Opened: 08/25/2005
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Tc-99 by LSC
Lot #'s (Sample #'s): J5H190000 (258), J5H190158 (1),
QC Batches: 5231258

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	08/25/2005	There was insufficient sample sent for a matrix spike.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	08/25/2005	NA

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F05-009-078	PAGE 1 OF 1
COLLECTOR POPE/PFISTER/MOKLER/TYRA	**COMPANY CONTACT** JACKSON, RL	**TELEPHONE NO.** 372-9004	**PROJECT COORDINATOR** TRENT, SJ	**PRICE CODE** 8B	**DATA TURNAROUND** 7 Days / 15 Days
SAMPLING LOCATION 216-U-8 ; C4714 44ft - 46ft	**PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement		**SAF NO.** F05-009	**AIR QUALITY** ☐	
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-439	**COA** 119141ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE		
SHIPPED TO Severn Trent Incorporated, Richland	**OFFSITE PROPERTY NO.** ~~N/A~~ 20 ① MAB 3/4/05		**BILL OF LADING/AIR BILL NO.** N/A		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Rad to to ~~C47~~ D B1CF51

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None												
TYPE OF CONTAINER	aG												
NO. OF CONTAINER(S)	1												
VOLUME	60mL												
SAMPLE ANALYSIS	Isotopic Uranium; Technetium-99; ~~Total Uranium~~												

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1CF64 G6CW5	SOIL	3-8-05	1215	X								

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
JSPOPE/[illegible] 3-8-05	1700	M6-026/REF.# 1 3.8.05	1706
M0-026 FREF # 1 3/16/05	1035	R.PFISTER/[illegible] 3/16/05	1035
R.PFISTER/[illegible] 3/16/05	1228	[illegible] 3/16/05	1230
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

J5C160275
SDG W04589
Due 3-23/1331

LABORATORY SECTION	**RECEIVED BY**		**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**		**DISPOSED BY**	**DATE/TIME**

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-009-079	PAGE 1 OF 1

COLLECTOR POPE/PFISTER/MOKLER/TYRA	**COMPANY CONTACT** JACKSON, RL	**TELEPHONE NO.** 372-9004	**PROJECT COORDINATOR** TRENT, SJ
SAMPLING LOCATION 216-U-8 ; C4715 44ft-46ft	**PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement		**SAF NO.** F05-009
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-439	**COA** 119141E510	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
SHIPPED TO Severn Trent Incorporated, Richland	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A

PRICE CODE 8B

AIR QUALITY ☐

DATA TURNAROUND 7 Days / 15 Days

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None
TYPE OF CONTAINER	aG
NO. OF CONTAINER(S)	1
VOLUME	60mL
SAMPLE ANALYSIS	Isotopic Uranium; Technetium-99; ~~Total Uranium~~ 3-8-05

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF65 G6CW8	SOIL	3-9-05	1430	X

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
JSPOPE/[signature] 3-9-05	1700	MO-026/Ref. #1 3-9-05	1700
MO-026/Ref. #1 3-16-05	1035	J.S.POPE/[signature] 3-16-05	1035
JSPOPE/[signature] 3-16-05	1230	[signature] 3/16/05	1230

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

Fluor Hanford Inc. — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

COLLECTOR POPE/PFISTER/MOKLER/TYRA	COMPANY CONTACT JACKSON, RL	TELEPHONE NO. 372-9004	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8B / DATA TURNAROUND
SAMPLING LOCATION 216-U-8 , C4717 1ft-3ft	PROJECT DESIGNATION U Plant Closure Contaminant Plume Refinement		SAF NO. F05-009	AIR QUALITY ☐ / 7 Days / 15 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-4391	COA 119141ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO Severn Trent Incorporated, Richland	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None
TYPE OF CONTAINER	aG
NO. OF CONTAINER(S)	1
VOLUME	60mL
SAMPLE ANALYSIS	Isotopic Uranium; Technetium-99; ~~Total Uranium~~

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	Analysis
B1CF87 G-6CXC	SOIL	3-9-05	0820	X

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
TSPope / [signature]	3-9-05 1700	MO-026 / Ref. #1	3-9-05 1700
MO-026 FRIG #1	3/16/05 1050	R PFISTER / [signature]	3/16/05 1050
R. PFISTER / [signature]	3/16/05 1226	[signature]	3-16-05 1230

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		
COLLECTOR POPE/PFISTER/MOKLER/TYRA	**COMPANY CONTACT** JACKSON, RL **TELEPHONE NO.** 372-9004	**PROJECT COORDINATOR** TRENT, SJ	**PRICE CODE** 8B **DATA TURNAROUND**
SAMPLING LOCATION 216-U-8 ; C4717 37ft- 39Ft	**PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement	**SAF NO.** F05-009	**AIR QUALITY** ☐ 7 Days / 15 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-439 1 **COA** 119141ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO Severn Trent Incorporated, Richland	**OFFSITE PROPERTY NO.** N/A	**BILL OF LADING/AIR BILL NO.** N/A	

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegitation W=Water WI=Wipe X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None
TYPE OF CONTAINER	aG
NO. OF CONTAINER(S)	1
VOLUME	60mL
SAMPLE ANALYSIS	Isotopic Uranium; Technetium-99; ~~Total Uranium;~~ 9-9-05

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B1CF68 G6CXJ	SOIL	3-9-05	0965	X

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J Pope / Pfister	3-9-05 1700	MO-026 / Ref #1	3-9-05 1700
MO-026 / FRIG #1	3/16/05 1045	R. Pfister / [illegible]	3/16/05 1045
R. Pfister / [illegible]	3/16/05 1220	[illegible]	3-16-05 1230

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.

** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		[illegible]
COLLECTOR POPE/PFISTER/MOKLER/TYRA	**COMPANY CONTACT** JACKSON, RL · **TELEPHONE NO.** 372-9004	**PROJECT COORDINATOR** TRENT, SJ	**PRICE CODE** 8B · **DATA TURNAROUND** 7 Days / 15 Days
SAMPLING LOCATION 216-U-8, C4717 44ft-46ft	**PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement	**SAF NO.** F05-009	**AIR QUALITY** ☐
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-439 1 · **COA** 119141ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO Severn Trent Incorporated, Richland	**OFFSITE PROPERTY NO.** N/A	**BILL OF LADING/AIR BILL NO.** N/A	

MATRIX* A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None
TYPE OF CONTAINER	aG
NO. OF CONTAINER(S)	1
VOLUME	60mL
SAMPLE ANALYSIS	Isotopic Uranium; Technetium-99; ~~Total Uranium;~~ [initials]

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CF69 G6CXL	SOIL	3-9-05	0930	X

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J Pope/[signature]	3-9-05 1700	MO-026/Ref #1	3-9-05 1700
MO-026 FRIG #1	3/16/05 1045	R. PFISTER/[signature]	3/16/05 1045
R. PFISTER/[signature]	3/16/05 1228	[signature]	3/16/05 1230

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.

** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

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SEVERN TRENT **STL**

Sample Check-in List

Date/Time Received: 3-16 1230

Client: FUH SDG #: W04589 NA [ ] SAF #: F05-009 NA [ ]

Work Order Number: J5C160275 Chain of Custody # F05-009-078,79,81,82,83,84,85,101 125,126,127,128, 129, 130,131, 132, 133, 134, 135

Shipping Container ID: NA Air Bill # NA

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [ ] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 19
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - ____ tape
   - [✓] custody seals
   - [✓] hazard labels
   - [✓] appropriate samples labels
9. Samples are:
   - [✓] in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles

   (Only for samples requiring head space)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [ ] No [✓]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 3-16-05

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager: _____ Date _____

LS-023, 9/03, Rev. 5

8/24/2005 4:12:44 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/24/2004, 8/29/2005, Batch: '5231258', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting			Comments
5231258							
AC			**CalcC**	**FinchA**	8/19/2005 9:34:13		
SC				FinchA	InPrep	8/19/2005 9:34:13 AM	RICH-RC-5078 REVISION 3
SC				wagarr	IsBatched	8/19/2005 10:19:41 AM	ICOC_RADCALC v4.8.08
SC				FinchA	InSep1	8/21/2005 9:39:16 AM	RICH-RC-5078 REVISION 3
SC				FinchA	Sep1C	8/21/2005 12:28:59 PM	RICH-RC-5078 REVISION 2
SC				StringerR	InCnt1	8/21/2005 12:32:34 PM	RICH-RD-0001 REVISION 3
SC				BlackCL	CalcC	8/22/2005 12:31:34 PM	RICH-RD-0001 REVISION 3
AC				**FinchA**	8/21/2005 9:39:16		
AC				**FinchA**	8/21/2005 12:28:59		
AC				**StringerR**	8/21/2005 12:32:34		
AC				**BlackCL**	8/22/2005 12:31:34		

AC: Accepting Entry; SC: Status Change